

REMARKS/ARGUMENTS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments and the following remarks.

The claims are 1-9. Claims 1, 2, 5, 7 and 8 have been amended.

The drawings have been objected to under 37 C. F.R. 1,83(a) as not showing every feature of the invention specified in the claims. In particular, the Examiner has required that a translating arrangement, an unwinding device, a rotary nip roller, a heating device, a rewinding device, reinforcement pads and an oven be shown in the drawings.

As required by the Examiner, two new figures, namely Figures 4 and 5, have been added to show certain features of the claims which were not shown in the drawings as originally filed. New Figures 4 and 5 are arranged on new sheet 2/2 of the drawings. Figure 4 attached hereto shows a translating arrangement (which may comprise a plurality of rollers 25), an unwinding device (23), a rotary nip roller (7), a heating device (IR or UV oven 22), and a rewinding device (26). Figure 5 shows reinforcement

pad 27. The specification has been amended at pages 6-8 to reference the new drawing figures.

Claims 1-8 have been rejected under 35 U.S.C. 103(a) as being unpatentable over *Pippel et al.* (U.S. Patent No. 4,750,965) in view of *Chitwood et al* (U.S. Patent No. 3,574,040). Claim 9 has been rejected under 35 U.S.C. 103(a) as being unpatentable over *Pippel et al.* (U.S. Patent No. 4,750,965) in view of *Chitwood et al* (U.S. Patent No. 3,574,040) and further in view of *Kam et al* (U.S. Patent No. 4,086,378).

The rejections are respectfully traversed.

Claims 1, 2, 5, 7 and 8 have been amended.

Claim 1 has been amended to replace the word "section" with the phrase "profiled bar". It is clear from the description as originally filed that the word "section" had been used in its meaning of "profiled bar", i.e. bar with a profiled cross-section which is substantially constant in shape along the length of the profiled bar.

This is confirmed by Figure 3 as originally filed, showing the cross-section of the profiled bar. Furthermore, on page 1,

lines 10-12 of the description as originally filed, reference is made to "sections intended for use in building components, such as doors and windows, curtain walls, balconies, handrails, town-fittings and the like".

On page 2, lines 5-8 of the description as originally filed, reference is made to large size sections having a length of up to 20 meters, variously decorated, to be used for the production of doors and windows, also for outdoor use. The profiled bars, or sections, may be made "in particular from metal, aluminium or aluminium alloys, plastic materials, composite materials", as disclosed on page 2, lines 12-14.

It is believed that the parts of the original description mentioned above provide sufficient and unambiguous support for replacing the original word "section" with the word "profiled bar".

Claim 1 has further been amended by replacing the general word "pattern" with the more precise word "decoration". Support for this amendment may be found, *inter alia*, at reference numeral 2 in Figures 1 and 2 and on page 6, lines 27 and 30 of the description as originally filed.

Claim 1 as amended recites that the "at least one rotary nip roller" is "made of elastically complying material". Support for this amendment may be found, *inter alia*, on page 3, lines 13-15, of the description as originally filed.

Finally, claim 1 has been amended to recite that the "at least one rotary nip roller" is "so configured as to press the strip-like flexible support against said profiled bar for transferring said decoration onto said profiled bar when said profiled bar is translated along said direction, thereby obtaining a decorated profiled bar." Support for this amendment may be found, *inter alia*, on page 5, lines 5-9 and on page 7, lines 8-15 of the description as originally filed.

Claims 2, 5, 7, 8 have been amended to conform to amended claim 1.

For the reasons set out above, it is believed that the proposed amendments do not introduce new subject matter.

In his first Office Action, the Examiner acknowledges novelty of claim 1 as originally filed. Since amended claim 1 is more limited than claim 1 as originally filed, no further discussion as to novelty is deemed necessary.

In the Examiner's opinion, claim 1 as originally filed is obvious in view of the combination of US 4750965 (*Pippel et al.*) and US 3574040 (*Chitwood et al.*).

Pippel et al. discloses a machine for depositing a composite tape on a curved, upwardly-facing surface of a mandrel. The composite tape is a tape made of high strength fibers or filaments embedded in a thermosetting resin. By depositing side by side multiple courses of the composite tape on the mandrel, it is possible to construct one ply or layer of a manufactured article which is then constructed incrementally of successive layers of tape (see column 1, lines 20-25).

The machine disclosed in *Pippel et al.* comprises a tape laying head 20 mounted on a mounting arrangement which provides five axes of movement for the tape laying head 20. In particular, the tape laying head 20 is movable along three linear axes X, Y and Z and rotatable around two rotational axes A and C. The tape applying head 20 comprises a segmented laydown roller 60 having a plurality of segments each of which is kept in contact with the mandrel 22 by a compression spring 102.

In operation of the device according to *Pippel et al.*, a tape supply reel 70 carries a supply of the composite tape 72

adhered to a releasable backing paper 74 which separates the coils of composite tape on the supply reel. The laydown roller 60 applies pressure to the composite tape to adhere it to the underlying lay surface of the mandrel 22. The backing paper 74 then proceeds to a paper take-up reel 82 at the back end of the tape head 20.

It is preliminarily observed that *Pippel et al.* relates to a technical field which is remote from the technical field to which the pending claims relate.

In particular, amended claim 1 relates to the technical field of decorating a profiled bar by transferring onto the surface of the profiled bar a decoration initially printed on a strip-like flexible support. The latter support is pressed against the surface of the profiled bar by a rotary nip roller which is heated by a heating device. Owing to the pressure and heat applied by the rotary nip roller, the decoration is transferred from the flexible support onto the surface of the profiled bar, which is thereby decorated.

The apparatus according to amended claim 1 relates to a profiled bar, even having non-flat surfaces of complicated shape, to be decorated with a decoration of high quality. The rotary

nip roller, made of elastically complying material and having a shape which corresponds to the shape of a portion of the profiled bar to be decorated, ensures that the flexible support properly adheres to the profiled bar while the decoration is transferred onto the latter.

On the other hand, *Pippel et al.* relates to the technical field of manufacturing an article from a composite material by depositing successive layers of a composite web onto a mandrel. A person skilled in the art of decorating profiled bars would not look to the technical field of manufacturing composite articles. Accordingly, *Pippel et al.* should not be taken into consideration when assessing the obviousness of amended claim 1.

In fact, the apparatus of amended claim 1 operates on profiled bars which have already been manufactured, for example by means of extrusion. The skilled person faced with the problem of how to decorate profiled bars would not be prompted to look at *Pippel et al.*, because this reference does not have to manufacture profiled bars, but rather relates to decorating them.

Moreover, *Pippel et al.* does not even mention the possible decoration of the manufactured composite articles and is therefore totally irrelevant as far as decoration of objects is

concerned.

It is emphasized that the composite tape deposited by the machine disclosed in *Pippel et al.* is used to make a composite article and does not have any decorative function, whereas the strip-like flexible support of amended claim 1 is used to transfer a decoration onto an already manufactured article, namely a profiled bar.

For these reasons, it is believed that *Pippel et al.* does not constitute a pertinent prior art reference which the skilled person would take into consideration when trying to arrive at the invention of amended claim 1.

A similar reasoning applies to *Chitwood et al.*, which relates to the same technical field as *Pippel et al.*, namely the manufacturing of laminated objects by depositing composite tapes. Hence, amended claim 1 is patentable over the combination of *Pippel et al.* and *Chitwood et al.*, because neither *Pippel et al.*, nor *Chitwood et al.* are prior art references which the skilled person would consider in order to arrive at the invention of amended claim 1.

Even if a person of ordinary skill in the art were somehow

motivated to consider and combine the disclosures of *Pippel et al.* and *Chitwood et al.*, this combination would not lead to the invention claimed in amended claim 1.

In fact, there is no mention, neither in *Pippel et al.*, nor in *Chitwood et al.*, about a roller made of elastically complying material. In *Pippel et al.*, the laydown roller is made of a plurality of segments each of which is associated with a spring and a cylinder. Owing to the spring and cylinder, each segment is movable in relation to the adjacent segments, so that the laydown roller can roughly match the surface of the mandrel.

However, there is no suggestion or teaching in *Pippel et al.* to form each segment of the laydown roller from an elastically complying material. Therefore, each segment of the laydown roller of *Pippel et al.* does not change its shape when interacting with the mandrel and the composite tape.

If a segmented roller like the one disclosed in *Pippel et al.* were used in an apparatus which decorates profiled bars, it would not be possible to properly transfer the decoration onto non-flat surfaces of the profiled bars, for example on curved surfaces, because the laydown roller would not be able to match exactly the curved surface of the profiled bar. In fact, the

single segments of the laydown roller according to *Pippel et al.* cannot change their shape to match the shape of the portion of the profiled bar with which they interact.

Hence, in the curved regions of the profiled bar in which a single segment does not perfectly match the shape of the profiled bars, there would be defects in the decoration transferred, such defects consisting, for example, of non-decorated zones or zones having a decoration of bad definition.

A person of ordinary skill in the art would never contemplate using the segmented laydown roller of *Pippel et al.* to decorate profiled bars due to the defects caused by a segmented roller such as the one disclosed in *Pippel et al.*

However, the above mentioned defects in the decoration do not arise if an apparatus according to amended claim 1 is used. Such apparatus comprises a roller shaped according to a portion of the profiled bar and made of an elastically complying material. Due to its shape and the elastically complying material, the roller as recited in amended claim 1 is able to precisely match the whole surface of the profiled bar to be decorated, thereby ensuring uniform contact between the strip-like flexible support and the profiled bar. A high quality

decoration can therefore be obtained.

For the reasons set out above, it is believed that, even if the combination of *Pippel et al.* and *Chitwood et al.* were considered, amended claim 1 would not be rendered obvious.

The *Kam U.S. Patent No. 4,086,378* relates to fabricated composite structural members employing isogrid stiffening. A particular embodiment is to fabricate such composite structures employing compression molding coupled with co-curing, that is, simultaneous curing of stiffener and structural member, to integrally bond an isogrid stiffener or shear web to a structural component, for example the inside of a shell or cylinder, preferably also formed of a composite, particularly a composite comprised of layers of certain pre-impregnated tape. Thus, *Kam* is also nonanalagous prior art.

In summary, new drawing Figures 4 and 5 have been added. The specification has been amended in light of the new drawing figures. Claims 1, 2, 5, 7 and 8 have been amended. No new matter has been introduced.

The applicant believes that all the pending claims are written to overcome the rejections of the Examiner. Accordingly,

the applicant respectfully requests early allowance of the present patent application.

Respectfully submitted,
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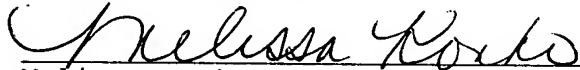


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Enclosures: 1. Copy of Petition for 3 Month Extension of Time
2. Two (2) Sheets Replacement Drawings.

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 31, 2005.


Melissa Konko

Amendments to the Drawings:

Attached are two (2) sheets of drawings which include FIGS. 1-5. In sheet 1, which includes FIGS. 1-3, the identification "1/1" has been changed to "1/2". Sheet 2 adds new FIGS. 4 and 5. Please substitute the attached two drawing sheets for the original drawing sheet currently on file.

Attachment: Two (2) Replacement Sheets.